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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/578,962	05/25/2000	Takashi Iwasaki	6920/0H207	7076

7590

01/22/2004

Darby & Darby PC  
805 Third Avenue  
New York, NY 10022

EXAMINER
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STOCK JR, GORDON J

ART UNIT	PAPER NUMBER
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2877

DATE MAILED: 01/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/578,962

Applicant(s)

IWASAKI ET AL.

Examiner

Gordon J Stock

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,5-10,12,14,15 and 17-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6,8,10,15 and 17 is/are allowed.
- 6) ☒ Claim(s) 1,5,9,12,14,18-21 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 May 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. The amendment received December 3, 2003 has been entered into the file.

#### *Drawings*

2. Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

#### *Claim Objections*

3. **Claim 21** is objected to for the following: “the material forming the substrate” of line 13 lacks antecedent basis.
4. **Claim 7** is objected to for the following: “the first and second concave mirrors” lacks antecedent basis. Correction is required. And **claim 7** is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The statement that the difference between the respective coefficients of linear expansion being  $10 \times 10^{-6}$ /degrees Celsius or less does not further limit the previous claims for the previous claims state the coefficient of linear expansion of a material forming the substrate and the coefficient of linear expansion of a focal length of the concave mirrors are approximately the same. Therefore, their difference is approximately zero.

#### *Claim Rejections - 35 USC § 112*

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. **Claim 20** is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Specifically, the statement “wherein the first and second concave mirrors are of glass materials and aluminum and ceramic” of lines 13-14 contain new matter of the mirrors being of aluminum and ceramic which is not reasonably conveyed on page 9 paragraph 2 of the disclosure.

Specifically, paragraph 2 of page 9 discloses that the mirrors may be of glass materials, BK7 and carbonate.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. **Claims 1, 5, 9, 12, 14, and 18-21** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

**Claims 1, 18, and 21** have the phrase, “a coefficient of linear expansion of a material forming a substrate” which is unclear; specifically, “a material,” implies another material comprises the substrate different from the second material. Therefore, it is unclear as to what material the phrase is referring. Correction is required. **Claims 5, 9, 12, 14, and 19** are rejected for depending on a rejected base claim.

9. **Claims 20 and 21** recite wherein a difference between a coefficient of linear expansion of a focal length of the concave mirror(s) and a coefficient of linear expansion of a material forming the substrate is  $10 \times 10^{-6}$ / degrees Celsius or less, and the claims also recite the coefficients of linear expansion are approximately the same which means the difference between the coefficients is zero. Therefore, it is unclear what is the value of the difference between coefficients, a range or zero.

*Response to Arguments*

10. Applicant's arguments, see pages 8-10, filed December 3, 2003, with respect to the rejection of **claims 1-3, 5, 9, 12, 13, 16** under 35 U.S.C. 103(a) have been fully considered and are persuasive. Due to the persuasiveness of the arguments and the subsequent amendment to the claims the rejection under 35 U.S.C. 103(a) has been withdrawn. However, new claim 20 has been rejected under 35 U.S.C. 112 first paragraph (see above) and 35 U.S.C. 112 second paragraph rejections have been made (see above). As for the objection to the other claims under 37 CFR 1.75(c) these objections have been withdrawn except for the objection to claim 7 due to the fact that there is a 35 U.S.C. 112 second paragraph issue. See above.

As for the drawings, Examiner apologizes for any inconvenience due to the PRIOR ART objection above, but after further review of applicant's disclosure Examiner determined Figure 2 was prior art.

*Allowable Subject Matter*

11. **Claims 6, 8, 10, 15, and 17** are allowed.

**Claim 7** would be allowable if rewritten to overcome the objection set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

**Claims 1, 5, 9, 12, 14, 18, 19, 21** would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

As to **claim 1**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a monochromator “the first and second concave mirrors are formed of a first material and said substrate is formed of a second material different from said first material, a coefficient of linear expansion of a focal length of the first concave mirror, a coefficient of linear expansion of a focal length of the second concave mirror and a coefficient of linear expansion of the second material forming the substrate are approximately the same” in combination with the rest of the limitations of **claims 1, 5, 9, 12, and 14**.

As to **claim 6**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a monochromator “the concave mirror condenses the diffracted rays when the diffracted rays are input, and the slit limits a wavelength band width of the condensed rays; wherein a coefficient of linear expansion of a focal length of the concave mirror and a coefficient of linear expansion of a material forming the substrate are approximately the same” in combination with the rest of the limitations of **claims 6, 7, 8, 10, 15, and 17**.

As to **claim 18**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a monochromator “a substrate formed of a composite of aluminum and ceramic to which the optical ray input section, the first concave mirror, the diffraction grating, the second concave mirror, and the optical ray output section are fixed; wherein a coefficient of linear expansion of a focal length of the first concave mirror, a coefficient of linear expansion of a focal length of the second concave mirror and a coefficient of linear expansion of the second

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material forming the substrate are approximately the same” in combination with the rest of the limitations of **claims 18-19**.

As to **claim 21**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a monochromator “wherein the first and second concave mirrors are of glass material and the material forming the substrate is a composite of aluminum and ceramic;” and “wherein the difference between the coefficients of linear expansion of the concave mirrors and the material of the substrate is equal to or less than  $10 \times 10^{-6}$ / degrees Celsius” in combination with the rest of the limitations of **claim 21**.

### *Conclusion*

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

U.S. Patent 4,675,860 to Laude et al.

U.S. Patent 4,709,989 to Mächler

U.S. Patent 5,604,589 to Kraiczek

U.S. Patent 6,219,473 to Laude

### *Fax/Telephone Numbers*

If the applicant wishes to send a fax dealing with either a proposed amendment or a discussion with a phone interview, then the fax should:

1) Contain either a statement “DRAFT” or “PROPOSED AMENDMENT” on the fax cover sheet; and

2) Should be unsigned by the attorney or agent.

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This will ensure that it will not be entered into the case and will be forwarded to the examiner as quickly as possible.

*Papers related to the application may be submitted to Group 2800 by Fax transmission. Papers should be faxed to Group 2800 via the PTO Fax machine located in Crystal Plaza 4. The form of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CP4 Fax Machine number is: (703) 872-9306*

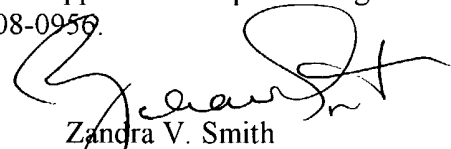
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gordon J. Stock whose telephone number is (703) 305-4787.

The examiner can normally be reached on Monday-Friday, 10:00 a.m. - 6:30 p.m.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

gs

January 10, 2004

  
Zandra V. Smith  
Primary Examiner  
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